

ON WEST INDIAN GECKONIDÆ AND ANGUIDÆ.

BY SAMUEL GARMAN.

GONATODES VITTATUS (*Wieg.*) *Licht.*; *Blgr.*

The females are grey, with scattered spots or with cloudings of brown. There are faint indications of a light vertebral line, but it is very indistinct and has not the black edges present in the males. The ventral surface is light-colored, without the steel blue markings of the belly or the black bars of the throat on the other sex.

Very young specimens are grey, flecked with white spots. These spots form eight or ten transverse series in which each of the larger spots is margined in front by a brownish blotch. The spots also form longitudinal rows, one of them lying at each side of the faintly defined vertebral band.

The eggs are elliptical in longitudinal section, the long axis being five and the short about four sixteenths of an inch.

Twenty-three specimens and a number of eggs were taken at Port of Spain, Trinidad.

THECADACTYLUS RAPICAUDA *Houtt.*; *Gray.*

Trinidad, Grenada, St. Lucia, Dominica, Guadaloupe, Saba, St. Barts and Anguilla are represented in the collection.

Those from Saba and Dominica are darkest in colors; those from Grenada are rather light; and those from Trinidad are reddish in ground color with the brown bands much more distinct.

HEMIDACTYLUS MABOUIA *Mor.; D. & B.*

Specimens are at hand from Trinidad, St. Lucia, Petit Martinique, Martinique and Porto Rico.

Those from Trinidad are very rough with trihedral tubercles, and the latter are more numerous than on those from the other islands. The nearest approach is in specimens from Porto Rico, but on the mainland those from Para and Rio Janeiro are still more closely allied.

ARISTELLIGER PRÆSIGNIS *Hallow.; Cope.*

Grand Cayman.

ARISTELLIGER LAR *Cope.*

A single individual, the type, in the collection.
Jeremie, Hayti.

SPILÆRODACTYLUS ELEGANS (*McLeay*) *Reinh. & Lütk.*

Of three specimens from Remedios, Cuba, each has eleven transverse bands between the eyes and the base of the tail; another has but ten. One from Caibarien, Cuba, has eleven.

SPILÆRODACTYLUS NIGROPUNCTATUS *Gray, 1844.*

A specimen from Samana, San Domingo, is referred to this species with some hesitation. The scales of the back and of the flanks are keeled; the latter and those of the belly are the larger; those of the head are very small. It is closely sprinkled with small spots of brown, in longitudinal rows.

SPILÆRODACTYLUS ALOPEX *Cope, 1861.*

The types are freckled somewhat by scattered small spots of light color, each occupying one or two scales.
Jeremie, Hayti.

SPILERODACTYLUS PUNCTATISSIMUS D. & B.; Gray.

A couple of specimens from Caibarien, Cuba, have narrow longitudinal streaks of brown, as figured by Cocteau, Rept. Cuba, pl. 18; a third is nearly uniform grey; and a fourth is thickly sprinkled with white dots.

SPILERODACTYLUS PICTURATUS sp. n.

Snout pointed, elongate, about one-half longer than the distance between the eye and the ear, or one and one-half times the orbital diameter. Ear-opening oval, oblique, as large as the digital expansions. Rostral large, with a median cleft at the upper edge; nostril between rostral first labial and three scales; four upper and four lower labials, anterior lower as long as the first two of the upper; mental large, meeting a pair of rounded small scales between the first pair of lower labials. Upper eyelid with a small, spine-like scale. Head covered with keeled, granular scales, larger along the median line and toward the rostral. Dorsal scales strongly keeled, imbricate, very large, largest about twice the diameter of the ventrals, in eight or nine series at each side of two or more vertebral series of granules; gular granules very small, larger toward the mental; ventrals moderate, imbricate, smooth; caudal scales imbricate, hinder margin rounded, anterior keeled, inferior a series of transverse plates.

Brownish. The head is marked with white in a narrow streak on each side from the rostral on the canthus and over the supraorbitals to the back of the head, in a median streak on the forehead, a rounded spot above each ear, another on the occiput and an oblique streak behind each ear upward to the back of the neck. A broad, black band crosses the back just in front of the shoulders, and

in it on each side there are two to three large, white spots; a similar band with spots crosses the middle of the body, and on each side of this band there is another of like pattern but lighter color. Backward on the tail the bands are less regular. On the young the four bands on the body are black. The limbs, lower surface of the tail, chin and cheeks are spotted with brown. The ventrals are lighter, punctulate with dark. On some in the brownish spaces between the dark bands light scales alternate with darker ones.

Possibly this species may prove identical with the *Spherodactylus anthracinus* of Boulenger, 1885, from San Domingo; it appears, however, to be quite distinct from the *S. anthracinus* of Cope, 1861, from Mexico. It is most closely allied to the *S. fantasticus* of Dumeril and Bibron from Martinique and to the *S. pictus* from St. Kitts. Our specimens were obtained in western Hayti.

SPHERODACTYLUS PICTUS sp. n.

Snout blunt, not as long as the distance from the eye to the ear opening, less than one and a half times the diameter of the orbit. Rostral large, with a median cleft above. Nostril surrounded by the rostral, first labial, nasal and an internasal. Three to four labials; lower labials three to four, anterior long. Mental large, truncate posteriorly. A small, spine-like scale on the upper eyelid. Head covered with granular keeled scales, larger toward the snout. Scales of the body moderate, keeled on back and flanks; those of the belly larger. A couple of rows of granules separate the keeled scales above the vertebrae.

Greyish with three or four rows of brown spots on each side. On the snout there is a brown band from each eye

around the end; a median band meets these on the rostral. Behind the eyes, on the head, there are six longitudinal bands of brown, four of which join to form two on the occiput, and these meet the laterals on the neck forming two which are continued above the shoulders. A light line across the forehead from one orbit to the other. Two or three light streaks, across the back of the head and the neck, appear on some. On a very young one there are five narrow, transverse, dark-edged streaks of white between the eyes and the base of the tail. There are traces of brown blotches on the lower surface.

An egg with the specimens has a long diameter of one-third of an inch and a short one of one-fourth.

Hab. St. Christopher's.

SPHERODACTYLUS MACROLEPIS *Gthr.*, 1859.

There is some resemblance in marks between specimens from St. Thomas and *S. pictus* from St. Kitts; the latter have the vertebral series of granules, as in *S. Copei*.

An egg which apparently belonged to one of the specimens measures in its longer diameter one-fourth of an inch and in its shorter one-fifth.

From San Domingo, Porto Rico and St. Thomas.

ANGUIDÆ.

DIPLOGLOSSUS STRIATUS *Gray; Blgr.*

Careful study of the type of *D. stenurus* Cope convinces me that Dr. Boulenger is right in placing it in *D. striatus*.

The lateral teeth of the specimen are two-cusped, the posterior cusp being much the stronger. The tail is slen-

der, compressed and about one and two-thirds times the length of the body. The tips of toes and fingers overlap slightly when the limbs are pressed to the side.

Jeremie, Hayti.

DIPLOGLOSSUS CRUSCULUS sp. n.

Lateral teeth compressed, bicuspid, anterior cusp small or indistinct. Ear-opening as large as the eye-opening, oblong, vertical. A large azygos prefrontal, broader than long, in contact with the broadest loreal, little wider than the frontal, separated by two pairs of shields from the rostral; occipital smaller than the interparietal; nasal separated from the rostral by the first labial; a postnasal and two or three loreals, second broadest; the suture between the fifth and sixth or sixth and seventh labials falls below the middle of the eye. Submentals large, one anterior followed by four pairs, anterior three and part of fourth in contact with the lower labials. Body elongate, sub-round, depressed. Forty-two rows of scales around the middle of the body; dorsals slightly roof-shaped, finely striate, with twenty-one striae on the middle of the back. Limbs short and weak; fingers not four times as long as thick; arm to the end of fingers reaching the anterior border of the ear; adpressed limbs not meeting by the length of the arm and hand; foot and leg two and one-third times in the distance from arm-pit to thigh.

Back brownish with closely placed narrow transverse or reticulated lines of brown; a narrow, light-edged dark streak along the upper edge of each flank, edges serrated; flank with scattered spots of white, less than a scale in size; darker lateral edges of scales under neck and head forming longitudinal streaks. Labials and other shields of the head with brown blotches.

Hab. Kingston, Jamaica.

DIPLOGLOSSUS COSTATUS.

Panolopus costatus Cope, 1861, Pr. Phil. Ac., 494.

Celestus phoxinus Cope, 1868, Pr. Phil. Ac., 123, 125.

Examination of the specimen that served as the type in founding the genus *Panolopus* shows that it had suffered considerably from mutilation, being deprived of its fingers and toes and badly wounded in the fore part of the head. In shape it is elongate fusiform, with a sharpness of angles on head and body that is in great part due to emaciation.

The arms and wrists are normal. The fingers have been carried away; this is proved by the differences in the stumps of hands and in the forms and sizes of the scales and callosities covering the healed surfaces. More of the hand remains on the right side than on the left; on the latter the extremity is more nearly conical; on the former it is more broad and flattened.

The legs and ankles also are normal. Excepting a short stump of each inner toe, the toes have been lost and with them a portion of each foot. The left stump is the more pointed. The callosities and scales covering the wounded portions are very different in shapes, sizes, numbers and arrangement on the two feet. Each foot is marked as if from unsuccessful attempts to cut it off nearer the ankle.

In front of the left eye there is a deep scar; a much deeper one is seen behind the second submental shields on the chin; and shallower evidence of healed wounds exists on the snout about and in front of the nostrils. A consequence of these wounds appears in the more or less complete fusion of rostral, nasals, supranasals, postnasals and the anterior three of the labials. The fusion is not entire; here and there portions of the dividing lines re-

main, and these with lines that appear through the scales, when out of alcohol for a short time, prove that the original disposition of the plates was much as in *D. occiduus*.

There are forty-four series of scales around the body. The coloration is as in *D. phoxinus*, except that the brown of the flanks is lighter, and that the small brown spots on the dorsal region are more numerous and a little more irregularly distributed.

The specimens from which the foregoing notices have been drawn belong to the Museum of Comparative Zoölogy at Cambridge, Mass.